

Research and Special Programs Administration

49 CFR Parts 172, 173, and 179

[Docket No. HM-166H; Amdt. Nos 172-70, 173-150, and 179-29]

Dispersant and Refrigerant Gases; Removal of Obsolete Compliance Reporting Requirements

AGENCY: Materials Transportation Bureau (MTB), Research and Special Programs Administration, DOT.

ACTION: Final rule

SUMMARY: This final rule amends the Hazardous Materials Regulations to authorize the shipment of fluorinated hydrocarbons and their numerous mixtures under a group category of Dispersant gas, n.o.s. or Refrigerant, gas, n.o.s. and removes an obsolete reporting requirement (§ 179.105-9) concerning DOT Specification 112 and 114 pressure tank cars bearing the owner's reporting mark.

EFFECTIVE DATE: This amendment is effective July 1, 1982. However, compliance with the regulations as amended herein, is authorized immediately.

ADDRESS: Copies of supporting documents, Regulation Evaluation and Environmental Assessment are available for inspection and reproduction at the following address: Dockets Branch, Materials Transportation Bureau, U.S. Department of Transportation, Room 8428, 400 Seventh Street, SW., Washington, D.C. 20590. Public dockets may be reviewed between the hours of 8:30 a.m. and 5:00 p.m. Monday through Friday. Telephone (202) 426-3148.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION: On January 8, 1981, the MTB published a notice of proposed rulemaking under Docket HM-166H; Notice No. 80-10 (46 FR 2121), which proposed to amend the Hazardous Materials Regulations to authorize the shipment of fluorinated hydrocarbons and their many mixtures under a group category of Dispersant gas, n.o.s. or Refrigerant gas, n.o.s. Authorizing the use of Dispersant gas, n.o.s. or Refrigerant gas, n.o.s. and the addition of "R" numbers will help make shipping paper entries less complex and simplify the identification of the numerous gases and their mixtures.

Included in this rulemaking, but not included in the notice, is the deletion of § 179.105-9. On September 7, 1978 (43 FR 39792), Docket No. HM-144; Amdt. No. 179-24, added § 179.105-9 which required owners of DOT Specification 112 and 114 pressure tank cars to provide to the Bureau a listing of those cars bearing the owner's reporting mark and plans of the owner to retrofit them with safety devices. Since § 179.105-9 has served its purpose and is no longer applicable, it is being deleted without public notice.

The MTB received three comments on Notice 80-10. Based on the comments received, and upon further review, four changes have been added to the final rule. First, Trifluoromethane and chlorotrifluoromethane mixture (R-503) has been added to the Table in § 172.101. Second, Bromotrifluoromethane (R-13B1) or (H-1301), Dichlorodifluoromethane (R-12),

Dichlorodifluoromethane and difluoromethane mixture (constant boiling mixture) (R-500), and Difluoromethane have been added to the Table in § 173.304. Third, proposed Notes 27 and 28 have been changed to read 28 and 29 respectively because Note 27 was added under Docket HM-174 on March 30, 1981. Also, new Note 28 has been changed by deleting the reference to 112A340W and 112A400W tank cars because these particular tank cars do not have bottom outlets. Fourth, Bromotrifluoromethane (R-13B1) or (H-1301) has been added to the Table in § 173.315.

The MTB has determined that this regulation is consistent with Section 2 of Executive Order 12291, and is a non-major rule under the terms of that Order since the effect of the rule is to simplify the identification of the numerous gases and their mixtures and to make the shipping paper entries less complicated. Pursuant to the Regulatory Flexibility Act, this rule will not result in a significant economic impact on a substantial number of small entities because its effect will be to reduce costs and simplify procedures.

In consideration of the foregoing, 49 CFR Parts 172, 173 and 179 are amended to read as follows:

PART 172—HAZARDOUS MATERIALS TABLES AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

§ 172.101 [Amended]

1. In § 172.101 the Hazardous Materials Table is amended by deleting or adding as indicated by the entities listed below:

BILLING CODE 4910-60-M

§ 172.101 Hazardous Materials Table.

(1) Y E/ N/ W/	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identifi- cation number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
					(a) Exceptions	(b) Specific require- ments	(a) Passenger carry- ing aircraft or railcar	(b) Cargo only air- craft	(a) Cargo vessel	(b) Pas- senger vessel	(c) Other requirements
	• • • • • (DELETE) • • • • •										
	Dichlorodifluoromethane	Nonflam- mable gas	UN1828	Nonflam- mable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane and difluoroethane mixture (constant boiling mixture)	Nonflam- mable gas	UN2802	Nonflam- mable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane- dichlorotetrafluoro- ethane mixture	Nonflam- mable gas	NA1956	Nonflam- mable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane- monochlorodifluoro- methane mixture	Nonflam- mable gas	NA1956	Nonflam- mable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane- trichloromonofluoro- methane mixture	Nonflam- mable gas	NA1956	Nonflam- mable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane- trichloromonofluoro- methane-mono-chloro- difluoromethane mixture	Nonflam- mable gas	NA1956	Nonflam- mable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane- trichlorotrifluoro- ethane mixture	Nonflam- mable gas	NA1956	Nonflam- mable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	1,1-Difluoro-1-chloro- ethane. See Difluoromonochloro- ethane										
*/	Difluoroethane	Flammable gas	UN1830	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	
*/	Difluoromonochloro- ethane	Flammable gas	UN2517	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	
	Dispersant gas or Refrigerant gas. See 173.314 NOTE 13 and 173.315 NOTE 9										
	Monobromotrifluoro- methane	Nonflam- mable gas	UN1909	Nonflam- mable gas	173.306	173.304 173.314	150 pounds	300 pounds	1,2	1,2	
	Monochlorodifluoro- methane	Nonflam- mable gas	UN1910	Nonflam- mable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Monochloropenta- fluoroethane	Nonflam- mable gas	UN1920	Nonflam- mable gas	173.306	173.304	150 pounds	300 pounds	1,2	1,2	
	Monochlorotetrafluoro- ethane	Nonflam- mable gas	UN1921	Nonflam- mable gas	173.306	173.304 173.314	150 pounds	300 pounds	1,2	1,2	

(1) E/ A/ W/	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(4) Identifi- cation number	(5) Label(s) required (if not excepted)	(6) Packaging		(7) Maximum net quantity in one package		(8) Water shipments		
					(a) Exceptions	(b) Specific require- ments	(a) Passenger carry- ing aircraft or railcar	(b) Cargo only air- craft	(a) Cargo vessel	(b) Pas- senger vessel	(c) Other requirements
	Dichlorodifluoromethane (R-12) and chlorodi- fluoromethane (R-13) mixture. See Refrig- erant gas, n.o.s. or Dispersant gas, n.o.s.										
	Dichlorodifluoromethane R-12 and trichloro- fluoromethane (R-113) mixture. See Refrig- erant gas, n.o.s. or Dispersant gas, n.o.s.										
	Dichlorodifluoromethane (R-12), trichlorofluoro- methane (R-113) and chlorodifluoromethane (R-112) mixture. See Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.										
	Dichlorodifluoromethane (R-12) and trichloro- trifluoromethane (R-113) mixture. See Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.										
	Difluoroethane (R-152a)	Flammable gas	UN1030	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1,2	
	Dispersant gas, n.o.s. See Refrigerant gas, n.o.s.										
	Refrigerant gas, n.o.s. or Dispersant gas n.o.s.	Nonflam- mable gas	UN1070	Nonflam- mable gas	173.308	173.304 173.314 173.315	550 pounds	300 pounds	1,2	1,2	
	Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.	Flammable gas	NA1954	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1,2	
	Trifluoromethane and chlorotrifluoromethane mixture (constant boiling mixture) (R-113B). See Refrigerant gas, n.o.s.										

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

2. In § 173.300, paragraph (i) is added to read as follows:

§ 173.300 Definitions.

(i) *Refrigerant gas or Dispersant gas.* The term "Refrigerant gas" or "Dispersant gas" applies to all flammable or nonflammable, nonpoisonous refrigerant gases, dispersant gases (fluorocarbons) listed in §§ 172.101, 173.304(a)(2), 173.314(c), 173.315(a)(1) and 173.315(h), and mixtures thereof, or any other compressed gas meeting one of the following:

- (1) A nonflammable mixture containing not less than 50% fluorocarbon content, having a vapor pressure not exceeding 260 psig at 130°F.
- (2) A flammable mixture containing not less than 50% fluorocarbon content, not over 40% by weight of a flammable component, having a vapor pressure not exceeding 260 psig at 130°F.

3. In § 173.304, the following named gases listed in the table in paragraph (a)(2) are deleted or added to read as follows:

§ 173.304 Charging of cylinders with liquefied compressed gas.

(a) * * *

(2) * * *

Kind of gas	Maximum permitted filling density (See Note 1)	Containers marked as shown in this column or of the same type with higher service pressure must be used except as provided in—
(Delete)		
Dichlorodifluoromethane (See Note 8).	119	DOT-3A225; DOT-3AA225; DOT-3B225; DOT-4A225; DOT-4BA225; DOT-4BW225; DOT-4E225; DOT-9; DOT-39; DOT-41; DOT-3E1800.
Difluoroethane (See Note 8).	79	DOT-3A150; DOT-3AA150; DOT-3B150; DOT-4B150; DOT-4BA225; DOT-4BW225; DOT-3E1800.
Difluoromonochloroethane (See Note 8).	100	DOT-3A150; DOT-3AA150; DOT-3B150; DOT-4B150; DOT-4BA225; DOT-3E1800; DOT-39.
Monochlorodifluoromethane (See Note 8).	106	DOT-3A240; DOT-3AA240; DOT-3B240; DOT-4B240; DOT-4BA240; DOT-4BW240; DOT-4E240; DOT-41; DOT-39.

Kind of gas	Maximum permitted filling density (See Note 1)	Containers marked as shown in this column or of the same type with higher service pressure must be used except as provided in—
Monochloropentafluoroethane (See Note 8).	110	DOT-3A225; DOT-3AA225; DOT-3B225; DOT-4A225; DOT-4BA225; DOT-4BW225; DOT-3E1800; DOT-39.
Monochlorotrifluoromethane (See Note 8).	100	DOT-3A1800; DOT-3AA1800; DOT-3; DOT-3E1800; DOT-39.
(Add)		
Bromotrifluoromethane (R-12B1 or H-1201).	124	DOT-3A400; DOT-3AA400; DOT-3B400; DOT-4A400; DOT-4AA400; DOT-4B400; DOT-4BA400; DOT-4BW400; DOT-3E1800; DOT-39.
Chlorodifluoroethane (R-142b) 1-chloro-1,1-difluoroethane (See Note 8).	100	DOT-3A150; DOT-3AA150; DOT-3B150; DOT-4B150; DOT-4BA225; DOT-4BW225; DOT-3E1800; DOT-39.
Chlorodifluoromethane (R-22) (See Note 8).	106	DOT-3A240; DOT-3AA240; DOT-3B240; DOT-4B240; DOT-4BA240; DOT-4BW240; DOT-4E240; DOT-41; DOT-3E1800.
Chloropentafluoroethane (R-115) (See Note 8).	110	DOT-3A225; DOT-3AA225; DOT-3B225; DOT-4A225; DOT-4BA225; DOT-4BW225; DOT-3E1800; DOT-39.
Chlorotrifluoromethane (R-13) (See Note 8).	100	DOT-3A1800; DOT-3AA1800; DOT-3; DOT-3E1800; DOT-39.
Dichlorodifluoromethane (R-12) (See Note 8).	119	DOT-3A225; DOT-3AA225; DOT-3B225; DOT-4A225; DOT-4BA225; DOT-4BW225; DOT-4E240ET; DOT-4E225; DOT-9; DOT-39; DOT-41; DOT-3E1800.
Dichlorodifluoromethane and Difluoroethane mixture (constant boiling mixture) (R-500) (See Note 8).	(*)	DOT-3A240; DOT-3AA240; DOT-3B240; DOT-3E1800; DOT-4A240; DOT-4B240; DOT-4BA240; DOT-4BW240; DOT-4E240; DOT-9; DOT-39.
Difluoroethane (R-152a) (See Note 8).	79	DOT-3A150; DOT-3AA150; DOT-3B150; DOT-4B150; DOT-4BA225; DOT-4BW225; DOT-3E1800.
Refrigerant gas, n.o.s. or Dispersant gas, n.o.s. (See Note 8).	(*)	DOT-3A240; DOT-3AA240; DOT-3B240; DOT-3E1800; DOT-4A240; DOT-4B240; DOT-4BA240; DOT-4BW240; DOT-4E240; DOT-9; DOT-39.

1 § 173.34(a), (b), § 173.301(j) (See notes following table).
2 Not liquid full at 130° F.

4. In § 173.314, the following named gases listed in the Table in paragraph (c) are deleted or added as indicated; Note 4 is revised; and Notes 28 and 29 are added to read as follows:

§ 173.314 Requirements for compressed gases in tank cars.

(a) * * *

Kind of gas	Maximum permitted filling density (See Note 1)	Required tank car, see § 173.31(a) (2) and (8)
(Delete)		
Dichlorodifluoromethane, Note 13.	119	DOT-106A500X, 110A500W, Note 25.
	125	DOT-106A300W, DOT-112A340W, 114A340W.
	123	DOT-106A500X, 110A500W, Note 25.
Dichlorodifluoromethane and dichloroethane mixture (constant boiling mixture); Note 13.	(*)	DOT-106A300W, DOT-106A500X, 110A500W, Note 25.
Dichlorodifluoromethane-dichlorotetrafluoroethane mixture; Note 13.	119	DOT-106A300W, DOT-106A500X, 110A500W, Note 25.
	125	DOT-106A300W, DOT-112A340W, 114A340W.
	(*)	DOT-106A500X, 110A500W, Note 25.
Dichlorodifluoromethane-monochlorodifluoromethane mixture; Note 13.	119	DOT-106A500X, 110A500W, Note 25.
	125	DOT-106A300W, DOT-112A340W, 114A340W.
	129	DOT-106A500X, 110A500W, Note 25.
Dichlorodifluoromethane-monofluorochloromethane mixture; Note 13.	(*)	DOT-106A300W, DOT-112A340W, 114A340W.
	119	DOT-106A500X, 110A500W, Note 25.
Dichlorodifluoromethane-trichloropropylfluoromethane monochlorodifluoromethane mixture; Note 13.	125	DOT-106A300W, DOT-112A340W, 114A340W.
	(*) 123	DOT-106A500X, 110A500W, Note 25.
Dichlorodifluoromethane-trichlorotrifluoroethane mixture; Note 13.	119	DOT-106A500X, 110A500W, Note 25.
	125	DOT-106A300W, DOT-112A340W, 114A340W.
	123	DOT-106A500X, 110A500W, Note 25.
Difluoroethane	79	DOT-106A500X, 110A500W, Note 25.
	79	DOT-112T400W, 112J400W.
	84	DOT-106A300-W, Note 23.
Difluoromonochloroethane; Note 13.	100	DOT-106A500X, 110A500W, Note 25.
		DOT-106A100W, Notes 4 and 23.
Monobromotrifluoromethane.	124	DOT-110A500W, Notes 7 and 13.
	140	DOT-106A500W, Note 13.
Monochlorodifluoromethane; Note 13.	106	DOT-106A500X, 110A500W, Note 25.
	110	DOT-106A300W, DOT-112A100W.
	108	DOT-112A100W.
Monochlorotetrafluoroethane; Note 13.	125	DOT-106A500X, 110A500W, Note 25.
	126	DOT-112A400W.

Kind of gas	Maximum permitted filling density, Note 1	Required tank car, see § 173.31(a) (2) and (3)	Kind of gas	Maximum permitted filling density, Note 1	Required tank car, see § 173.31(a) (2) and (3)	Kind of gas	Maximum permitted filling density, Note 1	Required tank car, see § 173.31(a) (2) and (3)
(Add)			Chlorotrifluoromethane (R-124); Note 13.	125	DOT-105A500X, 110A500W, Note 25.			
			Dichlorodifluoromethane (R-12); Note 13.	119	DOT-112A400W, 110A500W, Note 25.			
Bromotrifluoromethane (R-13B1 or H-1301).	124	DOT-110A800W, Notes 7 and 13.		123	DOT-112A340W, 114A340W, Notes 28 and 29.			
	140	DOT-105A500W, Note 13.			DOT-105A300W.			
Chlorodifluoromethane (R-142b) 1-Chloro-1,1-difluoroethane; Notes 4, and 13.	100	DOT-106A500X, 110A500W, Note 25.	Difluoroethane (R-152a); Note 4, Note 13.	79	DOT-108A500X, 110A500W, Note 25.			
				79	DOT-112T400W, 112L400W, 114A340W, Notes 23, 28 and 29.			
Chlorodifluoromethane (R-22).	105	DOT-105A100W, DOT-114A840, Notes 23, 28 and 29.	Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.	84	DOT-105A300W, Note 23.			
	110	DOT-106A500X, 110A500W, Note 25.		(F)	DOT-108A500X, 110A500W, Note 25.			
	106	DOT-112A400W.			DOT-105A300W.			
	(F)	DOT-114A340W, Notes 28 and 29.			DOT-112A340W, 114A340W, Notes 23 and 27.			

Note 4: For tank cars other than DOT-105A and DOT-110A used for the transportation of liquefied flammable gases, interior pipes of loading and unloading valves must be equipped with excess-flow valves of approved design.

Note 28: DOT-114A340W tank cars may be equipped with bottom outlets, except that the bottom outlets must be rendered inoperative and effectively sealed to preclude bottom unloading when transporting flammable gases.

Note 29: A maximum safety relief valve setting of 280.5 psig is authorized on DOT Specification 114A340W tank car tanks.

¹ Note 22.
² Note 21.

5. In § 173.315, the following named gases listed in the Table in paragraph (a)(1) are deleted or added as indicated; the Table in paragraph (h) is revised by changing the heading in the second column and the named gases are deleted or added to read as follows:

§ 173.315 Compressed gases in cargo tanks and portable tank containers.

Kind of gas	Maximum permitted filling density		Specification container required	
	Percent by weight (see note 1)	Percent by volume (see paragraph (f) of this section)	Type (see note 2)	Minimum design pressure (psig)
(Delete)				
Dichlorodifluoromethane (see note 9)	119	do	DOT-51, MC-330, MC-331	150
Dichlorodifluoromethane and difluoroethane mixture (constant boiling mixture) (see note 9)	See par. (c) of this section.	do	MC-330, MC-331	250
Dichlorodifluoromethane-dichlorotetrafluoroethane mixture (see note 9)	119	do	DOT-51, MC-330, MC-331	150
Dichlorodifluoromethane-monofluorobichloromethane mixture (see note 9)	See par. (c) of this section.	do	DOT-51, MC-330, MC-331	150
Difluoroethane	79	do	MC-330, MC-331	150
Difluoromethane (see note 9)	100	do	MC-330, MC-331	100
Monobromotrifluoromethane (see note 9)	133	See note 7	DOT-51, MC-330, MC-331	365
Monochlorodifluoromethane (see note 9)	105	do	DOT-51, MC-330, MC-331	250
(Add)				
Bromotrifluoromethane (R-13B1 or H-1301); (see note 9)	133	do	DOT-51, MC-330, MC-331	365
Chlorodifluoroethane (R-142b) (1-Chloro 1,1-difluoroethane); (see note 9)	100	do	DOT-51, MC-330, MC-331	100
Chlorodifluoromethane (R-22); (see note 9)	105	do	DOT-51, MC-330, MC-331	250
Dichlorodifluoromethane (R-12); (see note 9)	119	do	DOT-51, MC-330, MC-331	150
Difluoroethane (R-152a)	79	do	DOT-51, MC-330, MC-331	150
Refrigerant gas, n.o.s. or dispersant gas, n.o.s.	See par. (c) of this section.	do	DOT-51, MC-330, MC-331	See par. (c)(1) of this section.

PART 179—SPECIFICATION FOR TANK CARS

6. § 179.105-9 is deleted and reserved.

§ 179.105 Special requirements for Specifications 112 and 114 tank cars. [Reserved]

(49 U.S.C. 1803, 1804, 1806; (49 CFR 1.53, App. A to Part 1)

Note.—The Materials Transportation Bureau has determined that this document will not result in a "major rule" under the terms of Executive Order 12291 and is not a significant regulation under DOT's regulatory policy and procedures (44 FR 11034, nor

require an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321 et seq.) a regulatory evaluation and an environmental assessment are available for review in the docket.

Issued in Washington, D.C. on September 28, 1981.

L. D. Santapan,

Director, Materials Transportation Bureau.

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